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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,864	11/26/2003	Charles D. Combs	113692CON-2 (ATT.0020004)	6068
7590 11/04/2004			EXAMINER	
AT&T Corp. P.O. Box 4110 Middletown, NJ 07748			PHAN, HANH	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,864

Applicant(s)

COMBS ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37, 39-41, 43 and 44 is/are rejected.
- 7) ☒ Claim(s) 38 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/28/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 37, 39-41, 43 and 44 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S.

Patent No. 6,751,417 (Combs et al) in view of Frigo (US Patent No. 5,521,734 cited by applicant).

Regarding claims 37 and 41, Combs (U.S. Patent No. 6,751,417) discloses a communication system, comprising:

a mux node including a first lightwave interface device for communication with a headend, said mux node further including a second lightwave interface device for transmitting an optical signal including analog and digital signals; and

a mini fiber node including a third lightwave interface device for receiving said optical signal from said second lightwave interface device of said mux node, said mini

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fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection (see claim 1 of U.S. Patent No. 6,751,417).

Combs differs from claims 37 and 41 in that he fails to teach the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes. However, Frigo in US Patent No. 5,521,734 teaches the mux node (i.e., RT 220, Fig. 3) includes a mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) that is operative receive electrical signals that have been converted from optical signals received from the head end (i.e., CO 210, Fig. 3), demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device (i.e., transmitters T1-Tn-1, Fig. 3) that transmits the separate demultiplexed signals to designated mini fiber nodes (i.e., ONU#1-ONU#n-1, Fig. 3)(col. 4, lines 32-61). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes as taught by Frigo in the system of Combs. One of ordinary skill in the art would have been motivated to do this since Frigo

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suggests in column 4, lines 32-61 that using such the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes has advantage of allowing increasing capabilities of communication between the headend and end-users, increasing reliability and reducing cost of the communication system.

Regarding claims 39 and 43, Combs further discloses a second mini fiber node including a light interface device for receiving a second optical signal from the mux node, the second mini fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection (see claim 1-8 of U.S. Patent No. 6,751,417).

Regarding claims 40 and 44, Combs further discloses the analog signal is a broadcast signal (see claim 1-8 of U.S. Patent No. 6,751,417).

3. Claims 37, 39-41, 43 and 44 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,654,563 (Darcie et al) in view of Frigo (US Patent No. 5,521,734 cited by applicant).

Regarding claims 37 and 41, Darcie (U.S. Patent No. 6,654,563) discloses a communication system, comprising:

a mux node including a first lightwave interface device for communication with a headend, said mux node further including a second lightwave interface device for transmitting an optical signal including analog and digital signals; and

a mini fiber node including a third lightwave interface device for receiving said optical signal from said second lightwave interface device of said mux node, said mini fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection (see claim 1 of U.S. Patent No. 6,751,417).

Darcie differs from claims 37 and 41 in that he fails to teach the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes. However, Frigo in US Patent No. 5,521,734 teaches the mux node (i.e., RT 220, Fig. 3) includes a mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) that is operative receive electrical signals that have been converted from optical signals received from the head end (i.e., CO 210, Fig. 3), demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device (i.e., transmitters T1-Tn-1, Fig. 3) that transmits the separate demultiplexed signals to designated mini fiber nodes (i.e., ONU#1-ONU#n-1, Fig. 3)(col. 4, lines 32-61). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the mux node includes a mux/demux/router component that is operative receive electrical

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signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes as taught by Frigo in the system of Darcie. One of ordinary skill in the art would have been motivated to do this since Frigo suggests in column 4, lines 32-61 that using such the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes has advantage of allowing increasing capabilities of communication between the headend and end-users, increasing reliability and reducing cost of the communication system.

Regarding claims 39 and 43, Darcie further discloses a second mini fiber node including a light interface device for receiving a second optical signal from the mux node, the second mini fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection (see claim 1-8 of U.S. Patent No. 6,654,563).

Regarding claims 40 and 44, Darcie further discloses the analog signal is a broadcast signal (see claim 1-8 of U.S. Patent No. 6,654,563).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37, 39-41, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frigo (US Patent No. 5,521,734 cited by applicant) in view of Sutherland et al (US Patent No. 5,191,456).

Regarding claims 37 and 41, referring to Figure 3, Frigo discloses a communication system, comprising:

a mux node (i.e., RT 220, Fig. 3) including a first lightwave interface device (i.e., R0, T0, Fig. 3) for communication with a headend (i.e., CO 210, Fig. 3), the mux node further including a second lightwave interface device (i.e., R1-Rn-1, T1-Tn-1, Fig. 3) for transmitting an optical signal; and

a mini fiber node (i.e., ONU#1-ONU#n-1, Fig. 3) including a third lightwave interface device for receiving the optical signal from the second lightwave interface device of the mux node, the mini fiber node being further configured to communicate signals to end user equipment via a wired connection (col. 4, lines 30-61).

Frigo differs from claims 37 and 41 in that he fails to teach the signal transmitted including an analog signal. However, Sutherland in US Patent No. 5,191,456 teaches the signal transmitted including an analog signal (Fig. 1, col. 3, lines 55-67 and col. 4, lines 1-26). Therefore, it would have been obvious to one having skill in the art at the



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time the invention was made to incorporate the signal transmitted including an analog signal as taught by Sutherland in the system of Frigo. One of ordinary skill in the art would have been motivated to do this since Sutherland suggests in column 3, lines 55-67 and col. 4, lines 1-26 that using such the signal transmitted including an analog signal have advantage of allowing increasing capabilities of communication between the headend and end-users, increasing reliability, and reducing cost of the communication system.

Regarding claims 39 and 43, the combination of Frigo and Sutherland discloses a second mini fiber node including a light interface device for receiving a second optical signal from the mux node, the second mini fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection (Fig. 3 of Frigo and Fig. 1 of Sutherland).

Regarding claims 40 and 44, the combination of Frigo and Sutherland discloses the analog signal is a broadcast signal (Fig. 1 of Sutherland).

### ***Allowable Subject Matter***

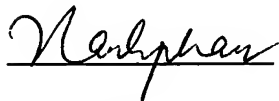
6. Claims 38 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



Hanh Phan

10/28/2004